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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 27

[Docket No. FAA-2021-0943; Special Conditions No. 27-21-01-SC]

Special Conditions: Robinson Helicopter Company Model R66 Helicopter; Pressure Refueling Provisions

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This action proposes special conditions for the Robinson Helicopter Company (RHC) Model R66 helicopter. This helicopter will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for normal category helicopters. This design feature is a pressure refueling system. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: Send comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Send comments identified by Docket No. FAA-2021-0943 using any of the following methods:

- *Federal eRegulations Portal:* Go to http://www.regulations.gov/ and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

Privacy: Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in title 14, Code of Federal Regulations (14 CFR) 11.35, the FAA will post all comments received without change to http://www.regulations.gov/, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about these special conditions.

Confidential Business Information: CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to these special conditions contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and the indicated comments will not be placed in the public

docket of these special conditions. Submissions containing CBI should be sent to Monica Abboud, Propulsion Section, AIR-794, Los Angeles ACO Branch, Aircraft Certification Service, Federal Aviation Administration, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (562) 627-5223; e-mail monica.m.abboud@faa.gov. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for these special conditions.

Docket: Background documents or comments received may be read at http://www.regulations.gov/ at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Monica Abboud, Propulsion Section, AIR-794, Los Angeles ACO Branch, Aircraft Certification Service, Federal Aviation Administration, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (562) 627-5223; e-mail monica.m.abboud@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

Background

On July 15, 2021, RHC applied for a change to Type Certificate No. R00015LA for the Model R66 helicopter. This change incorporated a pressure fueling system in the Model R66 helicopter. The RHC Model R66 helicopter, which is a derivative of the earlier models of the Model R66 helicopter currently approved under Type Certificate No. R00015LA, is a part 27 normal category helicopter. It is a single turbine engine helicopter with a four-passenger maximum passenger capacity and has a maximum gross weight, with no external load, of up to 2,700 pounds depending on the model configuration.

Type Certification Basis

Under the provisions of 14 CFR 21.101, RHC must show that the Model R66 helicopter, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. R00015LA or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (e.g., 14 CFR part 27) do not contain adequate or appropriate safety standards for the RHC Model R66 helicopter because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel

or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the RHC Model R66 helicopter must comply with the noise certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Feature

The RHC Model R66 helicopter will incorporate the following novel or unusual design feature:

A pressure refueling system, which will allow for optional pressure fueling.

Discussion

RHC proposes to modify the Model R66 helicopter by incorporating a pressure refueling system that would allow for optional pressure fueling from a fueling port on the right side of the fuselage and the existing gravity system via the fuel filler cap on top of the main fuel tank. This modification would provide faster, easier, and safer refueling when the engines are running and rotors turning compared to the existing fueling system located on the top of the main fuel tank. The pressure refueling system cannot be used for defueling and would include a crash-resistant fuel hose that runs from the fueling port on the right side to an inlet at the top of the fuel tank on the left side of the helicopter.

Part 27 does not contain requirements for pressure refueling for normal category helicopters. However, 14 CFR 29.979, amendment 29-12, effective February 1, 1977, provides these requirements for transport category helicopters. Accordingly, these

proposed special conditions are based on § 29.979 to provide requirements for the inclusion of the optional pressure refueling system on the Model R66 helicopters. 14 CFR 29.979 includes standards for pressure refueling and fueling provisions below fuel level on transport category rotorcraft.

This regulation is intended to prevent hazards to ground crew, flight crew, and occupants by reducing the probability of exposure to hazardous quantities of fuel due to spillage and ensuring the pressure refueling/defueling system is designed to prevent overfilling the fuel tank and to withstand an ultimate load overpressure event without failure.

Section 29.979(a) requires each fueling connection below the fuel level in each tank have a means to prevent the escape of hazardous quantities of fuel from that tank in case of malfunction of the fuel entry valve.

Section 29.979(b) requires systems intended for pressure refueling have a means in addition to the normal means for limiting the tank content to prevent damage to the tank in case of failure of the normal means.

Section 29.979(c) requires the rotorcraft pressure fueling system (not fuel tanks and fuel tank vents) to withstand an ultimate load that is 2.0 times the load arising from the maximum pressure, including surge, that is likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

Section 29.979(d) requires the rotorcraft defueling system (not including fuel tanks and fuel tank vents) to withstand an ultimate load that is 2.0 times the load arising from the maximum permissible defueling pressure (positive or negative) at the rotorcraft fueling connection. The design proposed by RHC does not include defueling capability.

The proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

These special conditions are applicable to the RHC Model R66 helicopter. Should RHC apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on one model of helicopter. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 27

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for Robinson Helicopter Company Model R66 helicopters.

The pressure refueling system must be designed and installed as follows:

(a) Each fueling connection below the fuel level in each tank must have the means to prevent the escape of hazardous quantities of fuel from that tank in case of malfunction of the fuel entry valve.

(b) For systems intended for pressure refueling, a means in addition to the normal means for limiting the tank content must be installed to prevent damage to the fuel tank in case of failure of the normal means.

(c) The rotorcraft pressure fueling system (not fuel tanks and fuel tank vents) must withstand an ultimate load that is 2.0 times the load arising from maximum pressure, including a surge, that is likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

Issued in Kansas City, Missouri, on February 1, 2022**.**

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